

WHAT IS CLAIMED IS:

1. A disc carrier assembly for a spindle motor for an optical disc drive,
the disc carrier assembly comprising:

5 a rotor including an end wall and a peripheral wall, a permanent ring
magnet being fixed to an inner periphery of the peripheral wall, the end wall
having a central hole,; and

a disc carrier including a main plate having an inner side and an outer
side, the inner side of the main plate being in intimate contact with the end wall
of the rotor, the main plate including an engaging portion on the inner side
10 thereof, the engaging portion including an axial hole through which a shaft is
securely extended, allowing joint rotation of the disc carrier and the shaft, the
engaging portion further including an annular groove for securely receiving a
peripheral wall portion delimiting the central hole of the end wall of the rotor,
allowing joint rotation of the disc carrier and the rotor.

15 2. The disc carrier assembly as claimed in claim 1, wherein the central
hole of the end wall of the rotor and the annular groove of the disc carrier are
non-circular.

3. The disc carrier assembly as claimed in claim 1, wherein the main
plate further includes an annular wall formed on the outer side thereof, the
20 annular wall surrounding the axial hole and defining a receiving compartment,
further including a metal washer and a magnetic ring securely received in the
receiving compartment, the metal washer being mounted around an end of the

shaft and sandwiched between the magnetic ring and the upper side of the main plate.

4. The disc carrier assembly as claimed in claim 1, wherein the disc carrier and the rotor are integrally formed as a one-piece member.

5 5. The disc carrier assembly as claimed in claim 1, wherein the end wall of the rotor further includes a stepped portion along a periphery thereof, the main plate including an annular rib formed on the inner side thereof for engaging with the stepped portion of the end wall of the rotor.

6. The disc carrier assembly as claimed in claim 2, wherein the end wall
10 of the rotor further includes a stepped portion along a periphery thereof, the main plate including an annular rib formed on the inner side thereof for engaging with the stepped portion of the end wall of the rotor.

7. The disc carrier assembly as claimed in claim 3, wherein the end wall
of the rotor further includes a stepped portion along a periphery thereof, the
15 main plate including an annular rib formed on the inner side thereof for engaging with the stepped portion of the end wall of the rotor.